Vermont State Rail Plan

TECHNICAL MEMO NO. 1 – OVERVIEW OF THE STATE RAIL SYSTEM

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Project: Vermont State Rail Plan

The Vermont State Rail Plan (SRP) is a planning tool with a state and regional focus. The SRP sets forth the Vermont Agency of Transportation's (VTrans) passenger and freight rail goals, strategies and objectives in the context of state and federal planning requirements. VTrans prepared these guiding principles drawing from previous planning and policy initiatives and with collaborative input from the public and stakeholder coordination processes. The Vermont SRP was prepared in conformance with applicable State statutes, and the requirements for organization and content set forth by the Passenger Rail Service Investment Improvement Act of 2008 (PRIIA), Public Law No.110-432 which was enacted in 2008.

1.1 Mission Statement, Vision and Values

The Vermont Agency of Transportation's railroad mission is the preservation, improvement, and promotion of rail transportation and its associated infrastructure to provide for the safe, reliable, cost-effective, and environmentally responsible movement of people and goods in the overall transportation system, thereby contributing to Vermont's quality of life and economic well-being.

The vision for Vermont's rail system is one that:

- Provides time- and service-competitive freight and passenger service into, out of, through and within the state via connections to the North American rail system.
- Provides connections between the parallel north-south corridors in Vermont to prevent fragmentation of the rail system and provides sufficient redundancy in the event of temporary loss of service in any one part of the system.
- Includes connecting branch lines that provide access to markets that warrant rail service.
- Locates passenger stations and freight facilities in a manner that supports efficient operation of the system and in harmony with the host communities.
- Has a freight network that is overlaid with tourist, regional, and intercity passenger services in locales where market conditions warrant such operations.
- Generates sufficient revenues and support for additional investment to permit maintenance and necessary upgrades to be performed in an efficient and timely manner.

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Realization of this vision will ensure that Vermont's rail transportation assets achieve and sustain their full value as a vital component in the state, regional, national, and ultimately global transportation network.

1.2 Goals & Objectives for Rail Service in Vermont

To accomplish its mission, VTrans will seek to attain the following goals (not listed in priority order).

- Support Vermont's economy by providing rail access, as appropriate, to all areas of the state, so that rail can be a strong component of Vermont's economy.
- Remove existing weight and clearance restrictions, as appropriate, so that Vermont's railroads can be connected and competitive in today's environment of 286,000 pounds gross weight and excess height railcars.
- Develop programs to assist major rehabilitation or replacement of obsolete bridges, structures, trackwork and other infrastructure components required for maintaining safe and efficient operations.
- Seek adequate and stable funding, including federal assistance, for rail projects and assure appropriate staffing to support the Agency's mission.
- Cooperate with Vermont cities and towns, regions, state agencies and interested parties in open communication and public outreach, to seek balance between the needs of the railroads and the human and natural environments.
- Continue to promote efficient rail freight and passenger movement to assure continued environmental, economic and other benefits inherent in use of the rail transportation mode.
- Strive to maintain the safest possible network of railroad infrastructure and operations to assure the safety of Vermont's communities, natural resources, traveling public and railroad employees.
- Preserve rail corridors for future transportation use.

Additional information on quantitative goals, more detailed objectives, and performance measures (based on FRA requirements) to be filled in based on discussions with the VRAC and other stakeholders

1.3 General Overview of the Rail System

Vermont's rail network encompasses approximately 578 miles of rail lines, with ownership being split between about equally between the state and private operators. All of the lines are used for freight service as shown in Exhibit 1, with two routes also being used for intercity passenger service. Intercity rail passenger service operates over 200 miles in Vermont serving 12 stations, and is shown in Exhibit 2, including the annual passenger volumes. The rail owners and operators are made up almost entirely of short lines and regional railroads.

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The intercity passenger rails services are operated by Amtrak, with the State of Vermont contributing to the funding and service planning, in partnership with neighboring states through which the trains operate. The rail corridors are oriented in a north–south alignment, owning primarily to terrain. Connections to larger regional railroads and to national rail system are available a several locations. However, issues of track and infrastructure capacity continue to pose challenges in terms of using these connections to their full potential.

Exhibit 1: Vermont Freight Rail Lines

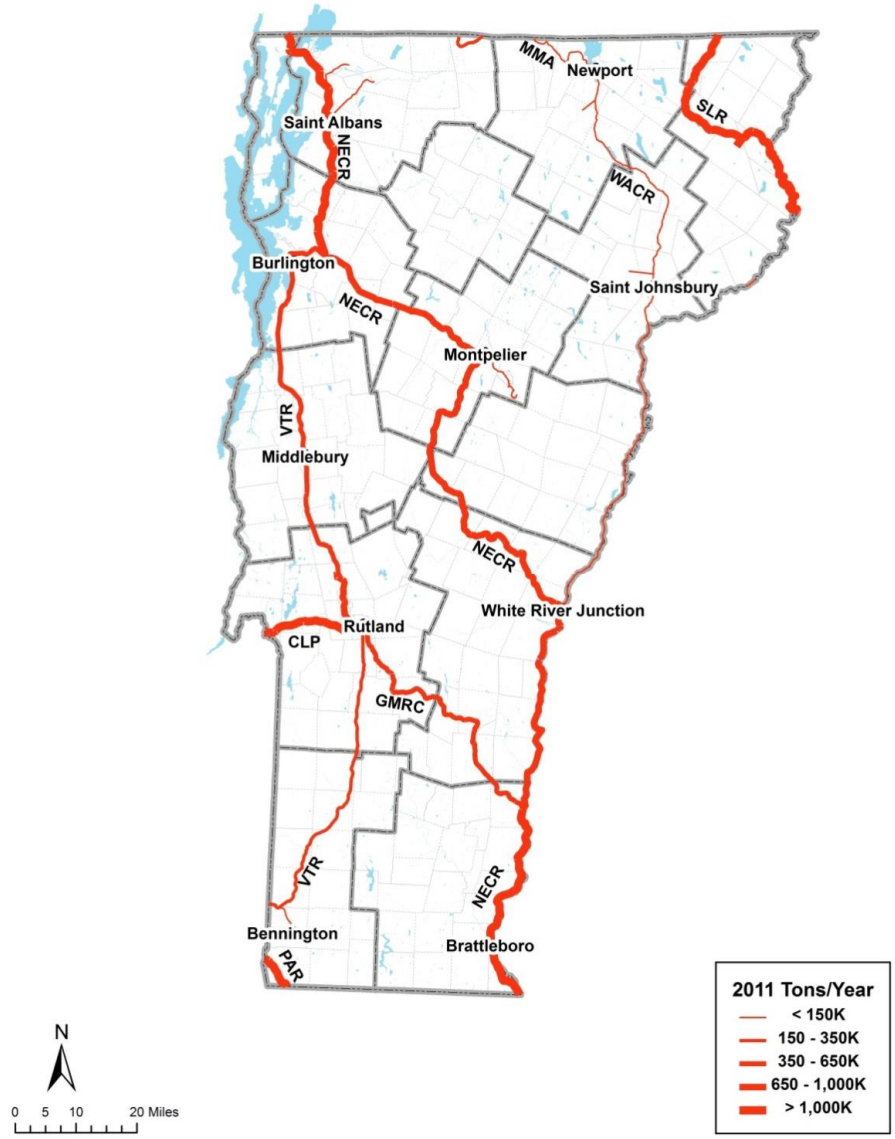
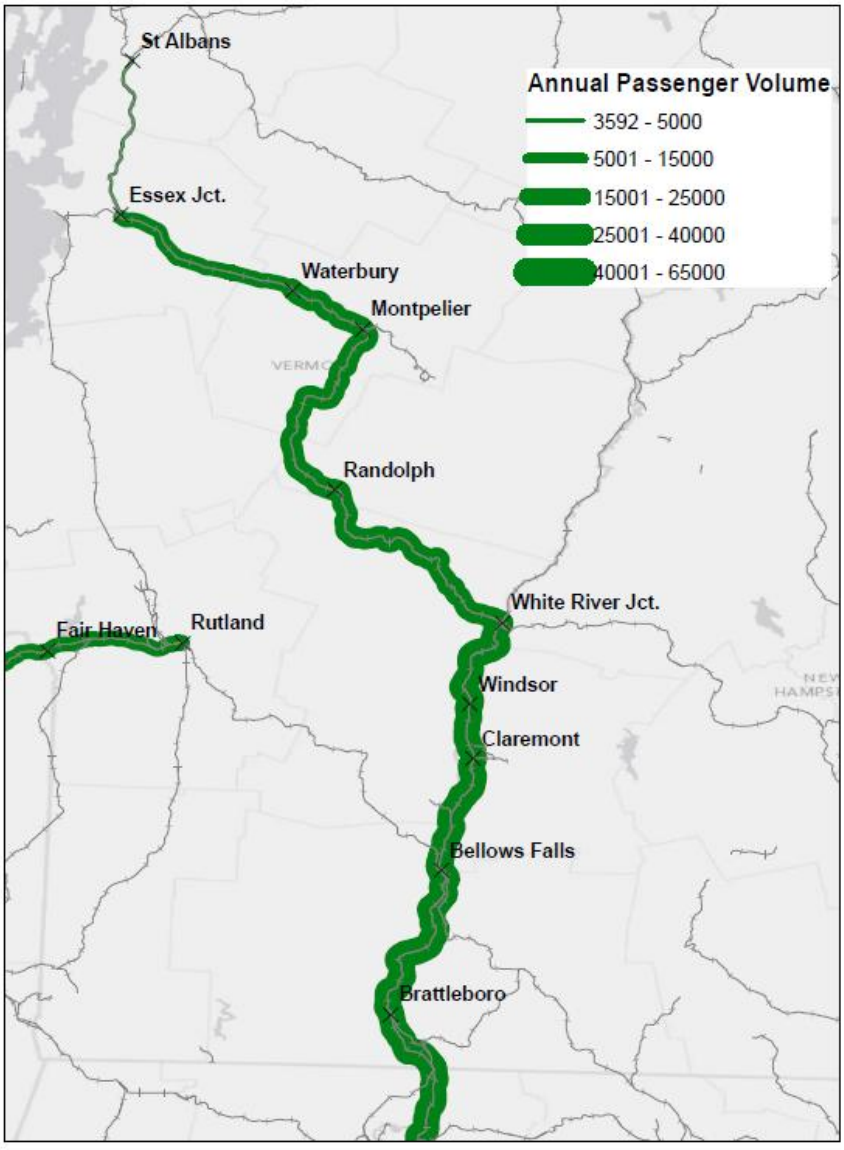


Exhibit 2: Vermont Passenger Rail Lines



1.4 History of Vermont's Railroads – Summary

Vermont is the second largest of the New England states, encompassing 9,609 square miles. The Green Mountain range, an extension of the Appalachian Ridge, divides the state into two watersheds, which also define the state's western and eastern borders - the Lake Champlain / St. Lawrence River watershed on the west and the Connecticut River watershed on the east. These two watersheds have influenced the development of transportation routes within the state, and the division occasioned by the Green Mountains has made travel between the east and west problematic.

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Construction of Vermont's first railroad, the Vermont Central, was completed in 1849 on a 116-mile route, from Windsor along the Connecticut River, and up the White River Valley and the Winooski River Valley to Burlington. Around the same time, construction was completed on the Rutland and Burlington Railroad running from Rutland up the Champlain Valley to Burlington, and from Rutland south to Bennington. An east-west connection was created by construction of a route over the Green Mountains between Rutland and Bellows Falls. Most of Vermont's major rail lines were completed by 1880. By the turn of the century, the state had approximately 1,000 miles of tracks.

Much of the railroad development in Vermont was fueled not only by a perceived need to provide transportation within the state, but also by financiers seeking to develop a land bridge between Atlantic coast ports and the Great Lakes. Many of these visions were not realized, and the resulting shortfalls in revenues hindered further growth and upkeep of many of these lines.

In a process that emulated national trends, the railroad industry in Vermont went through a period of decline in the first part of the 20th century, in part as a response to overbuilding and speculation. In New England, this retrenchment was exacerbated by a decline in the region's manufacturing activity as industries relocated to southern and western parts of the US. As part of the national mobilization, the rail industry in Vermont experienced resurgence during WWII. In the post war period, the railroad industry's decline resumed, due to the continuing departure of manufacturing activity and increasing reliance on automobiles, trucks, buses and air transportation.

Passenger services were the first to go, as the Rutland Railroad's Burlington – Rutland – New York corridor saw its last passenger train discontinued in 1953. The State of Vermont lost its last intercity rail passenger services in 1966 when the Boston & Maine Railroad and the Central Vermont Railroad discontinued the daytime *Ambassador*, the overnight *Montrealer* and *Washingtonian* trains operating between Boston, New York, Washington D.C. and Montreal.

The Rutland Railroads declining fortunes led to bankruptcy and a filing for abandonment in 1962. The State of Vermont then acquired the line and the Vermont Railway became the state's first designated railroad operator in 1964. In 1965, the Green Mountain Railroad Corporation began operating the Rutland-Bellows Falls segment of the former Rutland. Vermont's pioneering rail preservation efforts and subsequent acquisitions have resulted in the state owning approximately 52 percent of the active rail lines in the state.

Exhibit 3: Table of Vermont Active Rail Lines

Rail Line	Ownership	Track Mileage
Pan Am Railways (PAR)	Private	6.3
Canadian National (CN)	Private	3
Clarendon & Pittsford (CLP)	Private	17.9
Connecticut River Division (WACR)	Public – State	102.2
Green Mountain Railroad Corp (GMRC)	Public – State	50
Montreal, Maine & Atlantic (MMA)	Private	24.4
New England Central Railroad (NECR)	Private	190.9

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Rail Line	Ownership	Track Mileage
St Lawrence & Atlantic Railroad (SLR)	Private	30.7
Vermont Railway (VTR)	Public – State	139.8
Washington County Railroad (WACR)	Public – State	13.1
TOTAL ACTIVE MILEAGE		578.3
TOTAL ACTIVE MILEAGE PUBLIC-STATE OWNED		305.1

During the late 1960s the railroad industry in the Northeast US arguably reached its lowest point with the financial collapse of the Penn Central railroad and the continuing fiscal and physical decline of regional railroads throughout the region. The formation of the Consolidated Rail Corporation in 1976, as part of the Railroad Revitalization and Regulatory Reform Act (4R Act), was the federal government's response to the worsening situation, and its resulting rationalization of the railroad network throughout the Northeast slowed and eventually reversed the decline. Vermont benefitted from this stabilization primarily by having connections to railroads in the Northeast and throughout the US preserved and by having improved services from connecting railroads.

One drawback to the formation of Conrail was the reduction of multiple (and hence competitive) possible connections to the national rail system, since for Vermont, nearly all of these connections needed to occur through Conrail at some point. The sale of Conrail to CSX and Norfolk Southern (NS) in June 1999 afforded short line and regional railroads in Vermont and in other New England states the opportunity to pursue alternate connections to the national rail system through both CSX and NS. The issue of having alternative, competitive connections to the North American rail system remains paramount for freight rail planning efforts in Vermont.

The establishment of Conrail did not result in immediate success. Conrail and other major railroads were hampered by government regulations, which dated back almost 75 years. Deregulation of the railroad industry by the federal government under the Staggers Act of 1980 allowed railroads to adjust services and rates in response to market conditions. It also facilitated the sale or abandonment of unprofitable routes and trackage. This permitted railroads to regain their footing when competing with other modes. The increased revenues proved railroads with resources needed to finance improvements and expansion of their infrastructure and rolling stock.

The creation of Amtrak in 1971 was intended to remove the burden of money-losing passenger train services from the railroads while preserving a national passenger rail network. In Vermont, the remaining passenger rail service operated as the overnight *Montrealer* via White River Junction between Washington D.C. and Montreal was discontinued. It was subsequently resumed by Amtrak in 1972.

As regulatory changes set into motion the ability of the large Class I railroads to rationalize their networks by selling off unprofitable routes, the number of new locally focused railroad companies has grown. A great number have taken marginal operations and turned neglected rail lines into self-sustaining prosperous operations, to the benefit of the local communities.

This process has continued to evolve with the acquisition of short lines by larger holding companies. The trend has been for clusters of short lines and regional railroads to realize economies of scale by

acquisition and management by holding companies. The purchase of the St. Lawrence & Atlantic Railroad by Genesee & Wyoming and the acquisition of the New England Central Railroad by Rail America were illustrative of this trend. More recently, a trend has taken hold whereby larger holding companies are purchasing the assets of smaller ones. The recent acquisition of Rail America (including the New England Central Railroad) by Genesee & Wyoming is illustrative of this trend.

Vermont is among a small group of states in which Class I railroads have a minimal or non-existent presence. As of 2004, Class I railroads no longer served customers within the state. Canadian National, a Class I railroad, operate into northeastern Vermont for approximately three miles and interchanges with the New England Central Railroad. A comparison, provided in the 2006 Vermont State Rail Plan, shows that in 1964, Canadian Pacific Railway, Canadian National/Central Vermont, Delaware & Hudson Railway and the Boston & Maine Railroad were all identified as Class I railroads serving Vermont. The previously noted regulatory changes and rationalization of the national railroad network have been the major reasons for this alteration.

Vermont's short lines and regional railroads have been consolidating. In 1997, the Vermont Railway (VTR), the Green Mountain Railroad Corporation (GMRC) and the Clarendon and Pittsford Railroad Company came under the corporate umbrella of the Vermont Rail System (VRS). In 1999, Vermont Rail System took over operations of the Washington County Railroad, which operates a 14-mile state-owned line from Montpelier Junction to Barre. In 2002, Vermont Rail System added the New York, Portland & Ogdensburg Railway Company Inc. to its family of railroads. The New England Central Railway Company (NECR) was created from the Central Vermont Railway, a former subsidiary of the Canadian National. In 1995, the line was acquired by Railtex, a short line and regional railroad holding company based in San Antonio, Texas. A few years later, Railtex was acquired by RailAmerica which was in turn acquired by Genesee & Wyoming in 2012.

Vermont, served primarily by short line and regional railroads, faces a challenge in updating its railroad infrastructure to accommodate heavier and larger rail freight cars. This trend to "larger and heavier" is driven by large Class I railroads seeking to achieve ever-greater economies of scale in the transport of freight.

Research conducted by the railroad industry during the 1980s examined the economics of increasing the maximum weight for standard railcars beyond 263,000 pounds. This analysis led to the adoption of new weight limits of 286,000 pounds in 1995. Although originally benefitting the conveyance of hopper cars carrying coal and other high-volume bulk commodities, the increase had much wider impacts as most new railcars built since 1995 have been designed to accommodate the higher capacity. With that has come an expectation that the additional capacity can be utilized for a wide range of commodities throughout the rail network.

Although the Class I railroads have adopted the 286,000 pound railcar loading standard, the track and bridge structure of many short line and regional railroads are insufficient to support this heavier weight limit. The American Short Line and Regional Railroad Association have reported that the cost to upgrade the nation's short lines and regional lines to the so-called 286K standard is approximately $6.86 billion (in 1999 dollars, when this study was conducted). Given the financial state of many short line railroads, this level of investment—even if spread across the many short lines in the United States—represents a

cost the is very difficult for the short line industry to bear. As a result, upgrading the network to meet this standard is a difficult goal for individual railroads to achieve.

The size of railcars has also posed problems for ensuring connectivity with the national rail network, although it is less of a concern than the issue of weight capacity. The issue typically pertains to the height of the railcars, and involves the transport of multilevel (or "stacked") containers and railcars transporting automobiles in a multi-level configuration (termed "autoracks"). Depending on the height of the containers and the types of automotive vehicles being transported, height requirements (expressed as vertical clearance measured from the top of rail) can range up to 20 feet 8 inches. Older railroad lines, characteristic of Vermont, are typically encumbered by equally old roadway overpasses, tunnels and other overhead structures that do not provide such clearances. In order to participate in the transport of cargoes carried by the greater height railcars, rail lines must be "cleared" by virtue of reconstructing the overhead structures at a greater height, lowering the rail tracks, or removing the obstacles entirely. These can be expensive and extensive undertakings, often with significant impacts on adjacent properties. As a result, upgrading Vermont's rail infrastructure to handle the largest and heaviest rail cars is a potentially costly and complex endeavor that may be difficult to justify based solely on local needs.

1.5 Rail Line Abandonments and Re-openings

In 1994, the Lamoille Valley railroad ceased operations. Several years of declining rail traffic culminated in the line being rail banked and converted to interim use as a rail trail.

The Twin State Railroad has been embargoed and out of service since 1999. It operated a portion of the former Maine Central Railroad Company's Portland – St. Johnsbury Mountain Division between St. Johnsbury and Whitefield, NH.

1.6 Federal Legislation and Planning Requirements

In 2008, the United States Congress passed *Passenger Rail Investment and Improvement Act of 2008 (*PRIIA) for the purpose of improving passenger rail throughout the U.S. PRIIA requires states to have a Federal Railroad Administration (FRA) approved state rail plan as a condition for qualifying for future federal passenger rail funding. The Vermont SRP has been developed to comply with PRIIA, including the 12 requirements for SRP content as specified by PRIIA:

- Inventory of existing rail transportation network, rail services and facilities within the state and an analysis of the role of rail transportation within the state's surface transportation system.
- Review of all rail lines within the state, including proposed high-speed rail corridors and significant rail line segments not currently in service in the state.
- A statement of the state's passenger rail service objectives including minimum service levels, for rail transportation routes in the state.

- General analysis of rail's transportation, economic and environmental impacts in the state. This includes congestion mitigation, trade and economic development, air quality, land use, energy use, and community impacts.
- A long-range investment program for current and future freight and passenger rail infrastructure in the state.
- Discussion of public financing issues for rail projects and services in the state, listing current and prospective public capital and operating funding resources, public subsidies, state taxation, and other financial policies relating to rail infrastructure development.
- Identification of rail infrastructure issues within the state that reflects consultation with all relevant stakeholders.
- Review of major freight and passenger intermodal rail connections and facilities and prioritized options to maximize service integration and efficiency between rail and other modes of transportation within the state.
- Review of publicly funded projects that improve rail-related safety and security, including all major projects funded under Section 130 Title 23.
- Performance evaluation of passenger rail services operating in the state, including possible improvements to those services, and a description of strategies to achieve those improvements
- Compilation of studies and reports on high-speed rail corridor development within the state not included in a previous state rail plan and a plan for funding any recommended development of such corridors in the state.
- Statement that SRP complies with PRIIA Section 22102.

The SRP is prepared to assist in the formation of principled, purposeful and strategic national transportation policy.

1.6.1 Recent Federal Passenger Rail Legislation

PRIIA changed the structure by which passenger rail in the United States is funded. The 1970 Passenger Service Act, which created Amtrak, established a basic system of routes over which Amtrak was required to operate intercity passenger trains. However, under Section 403(b) of the Act, states could request additional service if they cover a portion of the costs. This cost sharing arrangement was revised several times until PRIIA of 2008 fundamentally altered the relationship between states and intercity passenger rail service. Section 209 of PRIIA required Amtrak—in consultation with the U.S. DOT—and states to develop a uniform methodology for allocating the operating and capital costs to states of providing intercity rail service on Amtrak routes that are either state requested, on designated high-speed rail corridors (outside of the Northeast Corridor), short distance corridors, or routes less than 750 miles. On October 15, 2013, Amtrak announced that it had successfully negotiated contracts with 19 states, including Vermont, thus fulfilling the requirements of PRIIA Section 209. States will pay about 85 percent of the operating costs attributed to state-supported routes, as well as capital maintenance costs

on Amtrak equipment, and support costs such as for safety and marketing, while Amtrak will pay about 15 percent for costs such as centralized dispatching and services. Given the nature of the Amtrak routes in Vermont, VTrans' agreements to fund Amtrak routes were made in conjunction with other states that share those routes, such as Massachusetts, Connecticut, and New York.

Also in 2008, the Federal government for the first time made funding available to states or groups of states to fund capital projects aimed at improving intercity passenger rail. PRIIA authorized more than $13 billion between 2009 and 2013 for the development of passenger rail service. The three competitive grant programs established under PRIIA, including the Intercity Passenger Rail Service Corridor Capital Assistance Program, the Intercity Passenger Rail Service Corridor Assistance Program, and Congestion grants were later consolidated into the High-Speed Intercity Passenger Rail Program (HISPR). Under HISPR, FRA solicited applications for more than $10 billion in grant funding, much of this appropriated as part of the American Recovery and Reinvestment Act (ARRA). Fiscal year 2010 was the last to include funding for the HISPR program. No funding for the program was included in the federal 2011, 2012, or 2013 budgets.

1.6.2 Federal Rules and Regulations Relevant to Freight and Intercity Passenger Rail

The primary federal agencies to have jurisdiction over freight and intercity passenger rail are the U.S. Surface Transportation Board (STB) and the Federal Railroad Administration (FRA). The STB was created in the ICC Termination Act of 1995 and is the successor agency to the Interstate Commerce Commission. The agency has jurisdiction over railroad rate and service issues and rail restructuring transactions (mergers, line sales, line construction, and line abandonments). The purpose of FRA is to promulgate and enforce rail safety regulations, administer railroad assistance programs, conduct research and development in support of improved railroad safety and national rail transportation policy.

Neither of these agencies issues policies or regulations aimed at discouraging or encouraging state ownership of rail lines. As owners of rail lines, the extent to which states interact with these agencies in their capacity of rail line owners, depend on the terms by which states lease their rail lines to private railroad operators. By some leases, the state has an active role in ensuring that the line is being operated and maintained to FRA standards. As an example, the VTrans Rail Section is responsible for inspecting and maintaining state-owned assets, and thereby interacts directly with the FRA on rail line inspection and safety matters. VTrans announced reorganization in 2013 due to an FRA requirement that the agency inspect 165 bridges on state-owned rail lines. Other states rely on the private railroad operators leasing state-owned rail lines to inspect and maintain state-owned facilities. Typically, leases for these state-owned lines specify that railroad operators maintain the lines to a specific FRA track class. The state agency interacts with the FRA to ensure that the lines are being maintained and operated to the promised FRA safety standard, but does not perform the inspections or maintenance itself.

1.7 State Legislation

Vermont's government takes a strong and active role in both the oversight and development of the state's rail network. As detailed in subsequent sections, the state owns a significant proportion of the rail lines in the state, provides funding for capital improvements through state budget allocations and

federal grants, and plays a direct role in inspecting portions of the state's rail infrastructure that is owned by VTrans. This SRP must also be coordinated with other state transportation planning processes, such as the development of the State Transportation Program and the Statewide Transportation Improvement Program.

Over the past several decades and in part because of the State's significant role in rail ownership and operations, Vermont's legislature has passed a significant volume of legislation that addresses this industry, from the original purchase of the Vermont Railway in 1964 through to recent grant allocations to fund Amtrak services in Vermont and upgrades to railroad facilities. A review of legislation passed over the last 15-20 years reveals that this legislation generally falls into three categories:

- Funding legislation, usually through budget Acts that fund VTrans's yearly operations. There are also special funding allocations, including the appropriations to fund projects that will be reimbursed through federal grants awarded to the State.
- Regulatory legislation that imposes new requirements on the railroad (or associated) industries. In addition, legislation is sometimes required to dispose of railroad property that is owned by the State, either to local governments or to abutting private owners.
- Policy statements and guidance at varying levels of requirement and specificity. These may direct VTrans to take a specific action, provide general policy direction without requiring a specific action, or express larger goals and objectives.

In addition to passed legislation that becomes an Act, legislation that is introduced but not passed provides an indication of rail issues that are of importance to Vermonters.

Some highlights of legislation introduced and/or passed in recent years include:

- Strong and ongoing support for the operation of Amtrak passenger rail service in Vermont, including supportive policy statements, purchase of rail lines and facilities that are critical to these passenger rail services, and allocation of State funds for operations and State and Federal funds for capital improvements. However, the recently passed Act 12 of the 2013-2014 session includes language seeking to modify Amtrak fares in Vermont in a manner that maximizes revenue and reduces the level of State subsidy.
- Acquisition of various rail lines to support ongoing operation of freight rail service in Vermont along with authorization to enter into agreements with private operators to provide service on these lines.
- Act 18 of 1999-2000, established a policy that rail network improvements should be conducted in a manner that accommodates 315,000 pound railcars.
- In addition to direct acquisition of key rail lines, legislation has also directed VTrans to develop plans for capital upgrades, study the relocation of rail yards in Burlington and Rutland and study

upgrading the Bellows Falls tunnel to accommodate double-stack container cars — a project that has been implemented in recent years.

- There have been various proposals to consider either reactivating the Vermont Transportation Authority or creating a Vermont Rail Authority to take over the ownership and management of the State's rail assets. In the mid-2000s, VTrans was directed to form a summer study committee to study the creation of a Vermont Rail Authority that could develop additional freight rail capacity.

Over time, the legislation introduced and passed has grown more limited and more focused, indicating that the State has started to accomplish some of its goals and upgrades related to rail and that the legislature has become more focused and possibly strategic. However, this also reflects the reality that State and Federal funding has become more limited and that critical decisions must be made as to how to prioritize the funding that is available.